ABDOMINAL VASCULAR INJURIES: AORTIC AND ILIAC VESSELS

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GOOD JUDGEMENT COMES FROM EXPERIENCE

EXPERIENCE COMES FROM BAD JUDGEMENT
Aortic Injuries I

- 5 years (1969 – 1974)
- 32 injuries; 8 diaphragmatic; 9 suprarenal; 15 infrarenal
- Mortality – 4 diaphragmatic; 8 suprarenal; 8 infrarenal

Arch Surg 1974
Aortic Injuries II

- 6 years (1974 – 1980)
- 15 injuries; 1 diaphragmatic, 2 suprarenal, 12 infrarenal
- Mortality – 0 diaphragmatic, 1 suprarenal, 5 infrarenal

J Trauma 1982
Patient ST

- 37 y/o female transferred to OHSU for mgmt possible aortic injury. She fell from a 2\textsuperscript{nd} storey window onto a metal banister. Landed on her L side. +ETOH. No LOC. C/o L lower rib and LUQ abdominal pain.
- Abdominal/pelvic CT done at referring hospital
- PMH—depression
- PSH—C section x 2
- Meds—Zoloft
Patient ST

- Hemodynamically stable  SBP100s, P80s
- A/O, skin warm, well perfused
- GCS 15
- Airway intact, CTAB, RRR
- L lateral chest wall tenderness
- Abd soft, tender LUQ/epigastrium
- Extremities atraumatic
Patient ST

• To OR for exploratory laparotomy, possible pancreatic resection, and repair of aorta
Retroperitoneal hematoma
Splenic vein and artery
Pt transferred back to 7a postoperatively

Uneventful recovery
MD – Presentation

• 00:30 – Car versus 2 pedestrians
• 01:00 – Level 1 Trauma Activation – 2 females with severe lower extremity injuries en route
• 21 YOF, auto ped, same accident as Trauma O. Multiple fx to right leg, possible left leg fx, probable LOC, pt has no recall of event. BP 88/40, HR 92, RR 18, GCS 13, 100% sats/RA. Immobilized.
MD – Presentation

• 01:15 – Arrival to OHSU ED
• Primary Survey
  – Airway – intact
  – Breathing – breath sounds bilaterally
  – Circulation –
    • Left foot: Grossly deformed fx with degloving
      – No pulses in the DP, PT or AT
      – Weak Doppler signals from PT only
MD – Presentation

• Secondary Survey:
  – HEENT:
    • Loose teeth, right maxillary lip laceration
    • C-collar in place
  – Pelvis
    • Stable to compression but painful
    • Abrasion anterior to pubic symphysis – painful to AP pressure
  – Lower extremities:
    • Right leg
      – Deformity R proximal thigh, R distal thigh, R ankle. Pulses intact.
    • Left leg
      – L midcalf deformity, large open defect, no distal pulses. Moves toes L foot. Moving L foot and intact sensation on plantar aspect. Doppler of PT only and very diminished.
MD – Evaluation

- CT – Chest – Abdomen – Pelvis
  - “contrast located between the bladder and the vaginal cuff on the left is 2.6 x 0.7 cm (image 210), minimally increased from 2.3 x 0.6 cm (image 189) on the CTA performed 1 minute, 10 seconds prior. This is suspicious for arterial extravasation from a branch of the left internal iliac artery.”
  - “5.4 x 1.8 cm hematoma tracks along the right pelvic sidewall.”
  - “intimal flap is noted at the bifurcation of the aorta and with extension into the proximal portions of the left and right common iliac arteries. A punctate filling defect is in the left common iliac vein at the iliac bifurcation (image 168), consistent with a small thrombus. Thrombus is seen in the right greater saphenous vein just extending into the common femoral vein.”
  - Comminuted fracture of the left anterior acetabular column extending to involve the superior pubic ramus and left pubic body. A comminuted fracture of the left inferior pubic ramus is also seen. There is a nondisplaced fracture through the right ischium.
MD – Evaluation

• CTA – Bilateral Lower Extremities
  – Very short traumatic dissection extending from the aortic bifurcation to the proximal right common iliac artery.
  – 3 vessel run-off in bilateral lower extremities
-- Small bilateral apical pneumothoraces
-- Small anterior and posterior splenic lacerations
-- possible internal left iliac artery branch within the pelvis with extravasation
-- 5.4 cm x 1.8 cm right pelvic sidewall hematoma
-- Traumatic aortic dissection at the bifurcation of the aorta with extension into the proximal portions of the left and right common iliac arteries.
-- Punctate filling defect of the left CIV at the iliac bifurcation c/w thrombus as well as thrombus in the right greater saphenous vein extending into the CFA.
-- Left anterior acetabular column comminuted fx extending to the superior pubic ramus and left pubic body.
-- Comminuted fx of the left inferior pubic ramus
-- Non-displaced fracture though the right ischium
-- Right tibia and fibula distal diaphyseal fx with posterolateral displacement
-- Right comminuted distal diaphyseal femoral fx with posterolateral displacement
-- Left severely comminuted tibial plateau fracture
-- Stable left common iliac vein non-obstructing thrombus and webbing
-- Bilateral maxillary lateral incisors have coronal fractures and there is peri-apical lucency around the bilateral maxillary central incisors suggesting a partial distraction injury
MD – CTA Bilateral Lower Ext.
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Injury to r. renal a. exposed